

IN THE CLAIMS

Please cancel Claims 1-70 without prejudice or disclaimer of the subject matter thereof.  
Please add the new Claims 71-166 as indicated below.

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1.-70. (Canceled)

71. (New) In a communications network where a processing machine establishes communication between a first caller and a second caller, wherein said first caller is coupled to said processing machine over a first communication medium, and said processing machine is  
10 coupled to said second caller over a second communication medium, a method comprising:  
invoking at least one connection routine at said processing machine to cause control signals to be sent to at least one of said first and second callers to enable media type selections, at least one of said media type selections including a selection of at least two different media types;  
and

15 transmitting via said processing machine a plurality of digital media packets corresponding to each of said at least two different media types;

wherein, for at least one of said at least two media types, at least a portion of said plurality of corresponding digital media packets are transmitted to at least one of said first and second callers in accordance with said media type selections and over said first medium via one  
20 or more packet switched communication channels, said one or more communication channels providing indeterminate system delays and bandwidth limitations that give rise to indeterminate packet loss; and

wherein for at least one of said at least two media types, the processing machine causes media signals to be communicated between the first and second callers.

25 72. (New) The method of Claim 71, wherein one of said first and second mediums comprises a packet switched network, and the other of the first and second mediums comprises a non-packet switched network.

73. (New) The method of Claim 72, wherein said media signals communicated between said first and second callers are communicated between the packet switched network and a  
30 telephonic network.

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74. (New) The method of Claim 71, further comprising:  
assigning a priority to each of said digital media packets at said processing machine;  
wherein said digital media packets are transmitted from said processing machine in  
substantially said order of said assigned priorities.

5        75. (New) The method of Claim 74, wherein said transmission of said plurality of digital  
packets in substantially said order of said assigned priority further comprises:  
providing a queue for holding said plurality of digital packets respectively corresponding  
to each of said plurality of digital media prior to transmission;  
placing successive ones of said plurality of digital packets in said queue in order of said  
10 assigned priority; and  
transmitting the first digital packet of said queue.

76. (New) The method of Claim 71, wherein said digital media data packets include video  
packets and audio packets.

15        77. (New) The method of Claim 71, wherein said digital media data packets include video  
packets, audio packets, and collaborative data packets.

78. (New) The method of Claim 77, wherein said video packets are assigned a lower  
priority than said audio packets.

79. (New) The method of Claim 77, wherein said collaborative data packets are assigned  
a lower priority than said video packets.

20        80. (New) The method of Claim 71, wherein said media type selections are bidirectional  
media type selections.

81. (New) The method of Claim 71, wherein said media type selection for said first caller  
is the same as said media type selection for said second caller.

25        82. (New) The method of Claim 71, wherein said media type selection for said first caller  
is different than said media type selection for said second caller.

83. (New) The method of Claim 71, wherein said second medium comprises a telephone  
line, and said second caller is coupled to the telephone line via a first modem.

30        84. (New) The method of Claim 83, wherein the processing machine further comprises a  
second modem and communicating said media signals between said first and second callers  
comprises transmitting packets received from the first medium to the second caller by  
transmitting from the second modem to the first modem.

85. (New) The method of claim 71, wherein said act of causing control signals to be sent comprises sending messages from one or more connection routines at said processing machine to respective connection routines of the first and second callers.

5 86. (New) The method of Claim 71, wherein said media type selections involve user interaction.

87. (New) In a communications network where a processing machine establishes communications between at least first and second user machines, said first user machine being coupled to said processing machine over a first communication medium, and said processing machine being coupled to said second user machine over a second communication medium, a  
10 method comprising:

causing control signals to be sent to said first and second user machines to enable media type selections, at least one of said media type selections including a selection of at least two different media types; and

transmitting via said processing machine a plurality of digital media packets  
15 corresponding to each of said at least two different media types, said digital media packets being transmitted in accordance with said media type selections over said first medium, said first medium having an indeterminate packet loss;

wherein for at least one of said at least two media types, media signals are communicated between the first and second user machines.

20 88. (New) The method of Claim 87, wherein one of said first and second mediums comprises a packet switched network, and the other of the first and second mediums comprises a non-packet switched network.

89. (New) The method of Claim 88, wherein said act of communicating media signals between said first and second user machines comprises communicating signals between the  
25 packet switched network and a telephonic network.

90. (New) The method of Claim 88, wherein said act of communicating media signals between said first and second user machines comprises communicating signals between said first and second mediums.

91. (New) The method of Claim 90, wherein one of said first and second mediums  
30 comprises a packet switched network, and the other of the first and second mediums comprises a non-packet switched network.

92. (New) The method of Claim 91, wherein the non-packet network comprises a telephone line.

93. (New) The method of Claim 87, further comprising:

assigning a priority to each of said digital media packets at said processing machine;

5 wherein said digital media packets are transmitted from said processing machine in substantially said order of said assigned priorities.

94. (New) The method of Claim 93, wherein said transmission of said plurality of digital media packets over said communication network in substantially said order of said assigned priority further comprises:

10 providing a queue for holding said plurality of digital media packets respectively corresponding to each of said plurality of digital media types prior to transmission;

placing successive ones of said plurality of digital media packets in said queue in order of said assigned priority; and

transmitting a first digital media packet of said queue.

15 95. (New) The method of Claim 87, wherein at least one of said media type selections is performed by a user.

96. (New) The method of Claim 87, wherein at least one of said media type selections is self configured by a routine running on said first or second user machine.

20 97. (New) In a communications network where first and second user machines are adapted for communication with a processing machine via first and second communication mediums, respectively, a method of establishing user-to-user communication comprising:

causing control signals to be sent to said first and second user machines to enable respective media type selections, at least one of said media type selections including a selection of at least two different media types; and

25 transmitting via said processing machine a plurality of packets corresponding to each of said at least two different media types, said packets being transmitted in accordance with said media type selections over at least one channel of said first medium, said at least one channel having an indeterminate packet loss;

30 wherein for at least one of said at least two media types, media signals are communicated between the first and second user machines via both said first and second mediums.

98. (New) The method of Claim 97, wherein one of said first and second mediums comprises a packet switched network, and the other of the first and second mediums comprises a non-packet switched network.

5 99. (New) The method of Claim 98, wherein said act of communicating between first and second user machines comprises communicating between the packet switched network and a telephonic network.

100. (New) The method of Claim 99, wherein said second user machine is coupled to the telephonic network via a first modem.

10 101. (New) The method of Claim 100, wherein the processing machine further comprises a second modem, and communication of said media signals comprises transmitting packets received from the packet-switched network to the second user machine by transmitting from the second modem to the first modem.

15 102. (New) The method of Claim 97, wherein said causing control signals to be sent comprises sending messages from one or more connection routines in data communication with the first processing machine to respective connection routines of the first and second user machines.

20 103. (New) For use in a system where an apparatus is adapted to communicate with a first caller via a packet switched network, communicate with a second caller at least via a telephone line, and to communicate signals between the first and second callers, a method comprising:

negotiating with a remote processing machine a selection of at least one media type from a plurality of media types including audio, video and data, and to configure, according to said selection, the apparatus to process media data packets received from and to be transmitted to said remote processing machine over said packet switched network via one or more packet switched communication channels, said one or more communication channels having indeterminate packet loss;

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placing said second caller into signal communication with the apparatus at least via the telephone line;

30 wherein said selection is of only audio, and said negotiation comprises sending a first message and receiving a response message, said negotiation involving a message format that

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supports the description of the audio, video and data media types, wherein the first message indicates that only audio is being offered in the negotiation; and

wherein the apparatus communicates information between said remote processing machine and said telephone line.

5           104. (New)   The method of Claim 103, wherein said indeterminate packet loss is at least in part a consequence of indeterminate system delays and bandwidth limitations of said communications channels.

105. (New) The method of Claim 103, further comprising:

assigning a priority to each of said media data packets at said apparatus;

10           wherein said media packets are transmitted from said apparatus in substantially said order of said assigned priorities.

106. (New) The method of Claim 105, wherein said transmission of said plurality of media data packets over said communication system in substantially said order of said assigned priority further comprises:

15           providing a queue for holding said plurality of media data packets respectively corresponding to each of said plurality of media types prior to transmission;

placing successive ones of said plurality of media data packets in said queue in order of said assigned priority; and

transmitting a first media packet of said queue.

20           107. (New)   The method of Claim 103, wherein said selection is a bidirectional media type selection.

108. (New)   The method of Claim 103, wherein said second caller is coupled to the telephone line via a first modem.

25           109. (New)   The method of Claim 108, wherein the apparatus further comprises a second modem and the communication of information comprises transmitting packets received from the first medium to the second caller by transmitting from the second modem to the first modem.

30           110. (New)   The method of Claim 103, wherein said negotiating comprises sending messages from one or more connection routines at the apparatus to a connection routine of the remote processing machine.

111. (New) The method of Claim 103, wherein said remote processing machine is associated with the first caller.

112. (New) The method of Claim 103, wherein said remote processing machine is coupled to said first caller via a second telephone line.

5 113. (New) The method of Claim 112, wherein the first caller initiates the call.

114. (New) The method of Claim 112, wherein the second caller initiates the call.

115. (New) A method of transmitting data packets from a first processing machine to be delivered to one or more of a plurality of remote processing machines in data communication therewith, and for placing a telephone subscriber into communication with the plurality of remote  
10 processing machines, the method comprising:

transmitting a plurality of packets for delivery to at least one of said plurality of remote processing machines over the packet switched network via one or more packet switched communication channels, said one or more communication channels having indeterminate system delays and bandwidth limitations that give rise to indeterminate packet loss, wherein each  
15 of said packets has a plurality of data fields associated therewith, at least one of said data fields comprising at least one destination address associated with a respective one of said plurality of remote processing machines; and

communicating signals of at least one media type via a telephone network to couple the telephone subscriber into communication with the plurality of remote processing machines;

20 wherein a first number of said plurality of packets may be transmitted for delivery to a first subset of said plurality of remote processing machines while a second number of said plurality of packets may be transmitted for delivery to a second subset of said plurality of remote processing machines, said first and second subsets not being identical.

116. (New) The method of Claim 115, further comprising:  
25 receiving from at least one source of media data a plurality of media data; and  
formatting the plurality of media data to produce the plurality of media data packets.

117. (New) The method of Claim 116, wherein the formatting comprises processing the plurality of media data to produce the plurality of media data packets.

118. (New) The method of Claim 115, wherein the first subset involves processing  
30 machines which have negotiated the use of a first media type and the second subset involves

processing machines which have negotiated the use of the first media type and a second media type.

119. (New) The method of Claim 118, wherein the first media type corresponds to an audio media type, and the second media type corresponds to a video media type.

5 120. (New) The method of Claim 118, wherein the first media type corresponds to an audio media type, and the second media type corresponds to a collaborative data media type.

121. (New) The method of Claim 115, wherein said first subset comprises all of said plurality of remote processing machines, and said second subset comprises a lesser number thereof.

10 122. (New) The method of Claim 115, further comprising generating, for each of said plurality of packets, a count of the number of said plurality of remote processing machines to which said packet was delivered, but not received.

123. (New) A method of operating an apparatus disposed in a telecommunications network, said apparatus comprising a computer readable medium having at least one computer  
15 program stored at least partly thereon, said program being adapted to bridge into teleconferencing communication one or more of a plurality of remote processing machines that are in signal communication with said apparatus via a packet switched network, and a telephone subscriber coupled to the apparatus at least partially via a telephone line, the method comprising:

transmitting each of said plurality of packets to at least one of said plurality of remote  
20 processing machines over said switched packet network via one or more packet switched communication channels, said one or more communication channels having indeterminate system delays and bandwidth limitations that give rise to indeterminate packet loss, wherein each of said packets has a plurality of data fields associated therewith, at least one of said data fields comprising at least one destination address associated with a respective one of said plurality of  
25 remote processing machines; and

sending signals of at least one media type via a telephone network to couple said telephone subscriber into communication with the plurality of remote processing machines;

wherein a first number of said plurality of packets may be transmitted for delivery to a first subset of said plurality of remote processing machines while a second number of said  
30 plurality of packets may be transmitted for delivery to a second subset of said plurality of remote processing machines, said first and second subsets not being identical.



124. (New) The method of Claim 123, further comprising:

receiving from at least one source of media data a plurality of media data; and  
formatting the plurality of media data to produce the plurality of media data packets.

5 125. (New) The method of Claim 124, wherein the formatting comprises processing the  
plurality of media to produce the plurality of media data packets.

126. (New) The method of Claim 123, wherein said first subset comprises all of said  
plurality of remote processing machines, and said second subset comprises a lesser number  
thereof.

10 127. (New) The method of Claim 123, wherein the first subset involves processing  
machines which have negotiated the use of a first media type and the second subset involves  
processing machines which have negotiated the use of the first media type and a second media  
type.

128. (New) The method of Claim 127, wherein the first media type corresponds to an  
audio media type, and the second media type corresponds to a video media type.

15 129. (New) The method of Claim 127, wherein the first media type corresponds to an  
audio media type, and the second media type corresponds to a collaborative data media type.

130. (New) The method of Claim 123, further comprising generating, for each of said  
plurality of packets, a count of the number of said plurality of remote processing machines to  
which said packet was delivered, but not received.

20 131. (New) In a communications network where a first processing machine establishes  
communication between at least second and third processing machines, the second processing  
machine being in signal communication with said first processing machine via a first  
communication medium, said first processing machine being in signal communication with said  
third processing machine via a second communication medium, a method comprising:

25 causing control signals to be sent to said second and third processing machines to enable  
media type selections, at least one of said media type selections including a selection of at least  
two different media types; and

transmitting via said first processing machine a plurality of digital media packets  
corresponding to each of said at least two different media types;

30 wherein, for at least one of said at least two media types, at least a portion of said  
plurality of corresponding digital media packets are transmitted via said first processing machine

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to at least one of said second and third processing machines consistent with said media type selections, said at least a portion of packets being transmitted over said first medium via one or more packet switched communication channels having an indeterminate packet loss; and

5 wherein for at least one of said at least two media types, the first processing machine causes media signals to be communicated between the second and third processing machines.

132. (New) The method of Claim 131, wherein said communication of media signals comprises communication of packetized media data.

133. (New) The method of Claim 132, wherein said second communication medium comprises a packet switched network.

10 134. (New) The method of Claim 131, wherein said at least one of said at least two media types comprises two media types.

135. (New) The method of Claim 131, wherein said at least one of said at least two media types comprises all of said at least two media types

15 136. (New) In a communications network where a processing machine establishes communication between at least first and second users, the first user being in signal communication with said processing machine via a first communication medium, said processing machine being in signal communication with said second user via a second communication medium, a method comprising:

20 causing control signals to be sent to at least one of said first and second users to enable media type selections, at least one of said media type selections including a selection of at least two different media types; and

transmitting via said processing machine a plurality of digital media packets corresponding to each of said at least two different media types;

25 wherein, for at least one of said at least two media types, at least a portion of said plurality of corresponding digital media packets are transmitted via said processing machine to at least one of said first and second users consistent with said media type selections, said at least a portion of packets being transmitted over said first medium via one or more packet switched communication channels having an indeterminate packet loss; and

30 wherein for at least one of said at least two media types, the processing machine causes media signals to be communicated between the first and second users.

137. (New) In a communications network where a first processing machine establishes communication between at least second and third processing machines, the second processing machine being in communication with said first processing machine via a packet-switched network having an indeterminate packet loss, said first processing machine being in signal communication with said third processing machine via at least a non-packet switched network, a method comprising:

causing control signals to be sent to said second and third processing machines to enable media type selections at each said second and third processing machines, at least said media type selection of said second processing machine comprising a selection of at least two different media types; and

transmitting via said first processing machine and said packet-switched network a plurality of digital media packets corresponding to each of said at least two different media types selected at said second processing machine;

wherein, for at least one of said at least two media types, at least a portion of said transmitted digital media packets are also transmitted for delivery to at least said third processing machine consistent with said third processing machine's media type selection, said first processing machine causing media signals related to said at least a portion of digital media packets to be communicated to said third processing machine.

138. (New) The method of Claim 137, wherein said communication of said media signals to said third processing machine comprises communicating digital media packets.

139. (New) In a communications network where a first processing machine establishes communication between at least second and third processing machines, the second processing machine being in communication with said first processing machine via communications channels of a packet-switched network having indeterminate packet loss, said first processing machine being in signal communication with said third processing machine via at least a non-packet switched network, a method comprising:

causing control signals to be sent to said second and third processing machines to enable media type selections via each; and

transmitting via said first processing machine and said communications channels a plurality of digital media packets corresponding to each of at least two different media types selected via said second processing machine based at least in part on said control signals;

5 wherein, for at least one of said at least two media types, said first processing machine further causes signals related to at least a portion of said transmitted digital media packets to be delivered to at least said third processing machine consistent with said third processing machine's media type selection.

140. (New) In a communications network where a processing machine establishes communication between at least first and second users, the first user being in communication  
10 with said processing machine via a packet-switched network having an indeterminate packet loss, said first processing machine being in signal communication with said second user via at least a non-packet switched network, a method comprising:

causing control signals to be sent to at least one of said first and second users to enable respective media type selections; and

15 transmitting via said processing machine and said packet-switched network a plurality of digital media packets corresponding to each of at least two different first user media types, said at least two different first user media types being selected based at least in part on said control signals;

20 wherein, for at least one of said at least two media types, said first processing machine further causes signals associated with at least a portion of said transmitted digital media packets to be delivered to at least said second user consistent with said second user media type selection.

141. (New) For use in a system where a communications apparatus is adapted to communicate with a first caller apparatus over a packet switched network and with a second caller apparatus via a telephone line, and to communicate signals between the first and second  
25 caller apparatus, a method comprising:

negotiating with the first caller apparatus a selection of at least one media type from a plurality of media types including audio, video and data, and to configure, according to said selection, the communication apparatus to process media data packets received from and to be transmitted to said first caller apparatus over said packet switched network via one or more  
30 packet switched communication channels having indeterminate packet loss; and

placing said second caller apparatus into signal communication with the communication apparatus at least via the telephone line;

wherein said selection is of only audio, and said negotiation comprises sending a first message and receiving a response message, said negotiation involving a message format that supports the description of the audio, video and data media types, wherein the first message indicates that only audio is being offered in the present negotiation; and

wherein the communication apparatus communicates information between said first caller apparatus and said telephone line.

142. (New) For use in an apparatus adapted to couple into communication a remote processing machine with a caller coupled via a telephone line, a method comprising:

negotiating with a remote processing machine a selection of at least one media type from a plurality of media types including audio, video and data, and to configure, according to said selection, the apparatus to process media data packets received from and to be transmitted to said remote processing machine over said packet switched network via one or more packet switched communication channels, said one or more communication channels having indeterminate packet loss; and

placing said caller into signal communication with the apparatus at least via the telephone line;

wherein said selection is of only audio, and said negotiation comprises sending a first message and receiving a response message, said negotiation involving a message format that supports the description of the audio, video and data media types; and

wherein the apparatus communicates information between said remote processing machine and said telephone line.

143. (New) The method of Claim 142, wherein said indeterminate packet loss is determined at least in part by indeterminate system delays and bandwidth limitations of said communications channels.

144. (New) The method of Claim 142, further comprising:

assigning a priority to each of said media data packets at said apparatus;

wherein said media data packets are transmitted from said apparatus in substantially said order of said assigned priorities.

145. (New) The method of Claim 144, wherein said transmission of said plurality of media data packets over said communication system in substantially said order of said assigned priority further comprises:

providing a queue for holding said plurality of media data packets respectively  
5 corresponding to each of said plurality of media type selections prior to transmission;  
placing successive ones of said plurality of media data packets in said queue in order of said assigned priority; and  
transmitting a first media data packet of said queue.

146. (New) The method of Claim 142, wherein the selection is a bidirectional media type  
10 selection.

147. (New) The method of Claim 142, wherein said caller is coupled to the telephone line via a first modem.

148. (New) The method of Claim 147, wherein the apparatus further comprises a second modem and the act of communicating comprises transmitting packets received from the  
15 first medium to the caller by transmitting from the second modem to the first modem.

149. (New) The method of Claim 142, wherein said act of negotiating comprises sending messages from one or more connection routines at the apparatus to a connection routine of the remote processing machine.

150. (New) The method of Claim 142, wherein said remote processing machine is  
20 associated with another caller.

151. (new) The method of Claim 150, wherein said remote processing machine is coupled to said other caller via a second telephone line.

152. (New) The method of Claim 151, wherein said caller initiates the call.

153. (New) The method of Claim 151, wherein said other caller initiates the call.

25 154. (New) For use in an apparatus adapted to couple into communication a remote processing machine with a caller coupled via a telephone line, a method comprising:

negotiating with a remote processing machine a selection of at least one media type from a plurality of media types including audio, video and data, and to configure, according to said selection, the apparatus to process media data packets received from and to be transmitted to said  
30 remote processing machine over a packet switched network that introduces indeterminate packet loss;

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placing said caller into signal communication with the apparatus at least via the telephone line;

wherein said selection is of only audio, and said negotiation comprises a message format that supports the description of the audio, video and data media types; and

5 wherein the apparatus communicates information between said remote processing machine and said telephone line.

155. (New) The method of Claim 154, wherein said indeterminate packet loss is determined at least in part by indeterminate system delays and bandwidth limitations of said communications channels.

10 156. (New) The method of Claim 154, further comprising:

assigning a priority to each of said media data packets at said apparatus;

wherein said media packets are transmitted from said apparatus in substantially said order of said assigned priorities.

15 157. (New) The method of Claim 156, wherein said transmission of said plurality of media data packets over said communication system in substantially said order of said assigned priority further comprises:

providing a queue for holding said plurality of media packets respectively corresponding to each of said plurality of media types prior to transmission;

20 placing successive ones of said plurality of media data packets in said queue in order of said assigned priority; and

transmitting a first media packet of said queue.

158. (New) The method of Claim 154, wherein said media type selection is a bidirectional media type selection.

25 159. (New) The method of Claim 154, wherein said caller is coupled to the telephone line via a first modem.

160. (New) The method of Claim 159, wherein the apparatus further comprises a second modem and the act of communicating comprises transmitting packets received from the first medium to the caller by transmitting from the second modem to the first modem.

30 161. (New) The method of Claim 154, wherein said act of negotiating comprises sending messages from one or more connection routines at the apparatus to a connection routine of the remote processing machine.

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162. (New) The method of Claim 154, wherein said remote processing machine is associated with a second caller.

163. (New) The method of Claim 162, wherein said remote processing machine is coupled to said second caller via a second telephone line.

5 164. (New) The method of Claim 163, wherein said caller initiates the call.

165. (New) The method of Claim 163, wherein said second caller initiates the call.

166. (New) For use in an apparatus adapted to couple into communication a remote processing means with a caller coupled via a telephonic means, a method comprising the steps of:

10 a step for negotiating with a remote processing means a selection of at least one media type from a plurality of media types including audio, video and data, and to configure, according to said selection, the apparatus to process media data packets received from and to be transmitted to said remote processing means over a packet switched network that introduces indeterminate packet loss;

15 a step for placing said caller into signal communication with the apparatus at least via the telephonic means;

wherein said selection is of only audio, and said negotiation comprises a message format that supports the description of the audio, video and data media types; and

a step for the apparatus to communicate information between said remote processing  
20 means and said telephonic means.